

What is claimed is:

1. A metal hydride alkaline storage cell comprising:  
a positive electrode;  
a separator impregnated with an electrolyte; and  
5 a negative electrode comprising hydrogen-absorbing alloy powder, wherein  
said hydrogen-absorbing alloy powder has a layer of hydrogen-absorbing  
alloy oxide formed on the surface thereof, and a catalytic metal or metal  
compound is dotted on said layer of hydrogen-absorbing alloy oxide in a  
granular state by adding a substance which is soluble in the electrolyte,  
10 said substance selected from the group consisting of a metal fluoride, a  
metal chloride, a metal iodide, and a metal sulfide, and a proportion of said  
substance to said hydrogen-absorbing alloy powder is restricted within the  
range of 0.1 to 2.5 wt.%.  
2. The metal hydride alkaline storage cell of claim 1 wherein said  
15 metal fluoride is at least one metal fluoride selected from the group  
consisting of a cobalt fluoride, a nickel fluoride, an aluminum fluoride, and  
a copper fluoride.  
3. The metal hydride alkaline storage cell of claim 1 wherein said  
metal fluoride is  $\text{CoF}_2$  and/or  $\text{NiF}_2$ .  
20 4. The metal hydride alkaline storage cell of claim 1 wherein said  
metal chloride is a cobalt chloride and/or a nickel chloride.  
5. The metal hydride alkaline storage cell of claim 1 wherein said  
metal iodide is a cobalt iodide and/or a nickel iodide.  
6. The metal hydride alkaline storage cell of claim 1 wherein said  
25 metal sulfide is a cobalt sulfide and/or a nickel sulfide.

7. The metal hydride alkaline storage cell of claim 1, 2, 3, 4, 5, or 6 wherein said hydrogen-absorbing alloy powder is selected from the group consisting of rare-earth element based hydrogen-absorbing alloy powder, Zr-Ni based hydrogen-absorbing alloy powder, Ti-Fe based hydrogen-absorbing alloy powder, Zr-Mn based hydrogen-absorbing alloy powder, Ti-Mn based hydrogen-absorbing alloy powder, and Mg-Ni based hydrogen-absorbing alloy powder.

8. The metal hydride alkaline storage cell of claim 1, 2, 3, 4, 5, or 6 wherein said hydrogen-absorbing alloy powder comprises hydrogen-absorbing alloy having a  $\text{CaCu}_5$  type crystal structure expressed by the general formula  $\text{MmNi}_a\text{Co}_b\text{Al}_c\text{Mn}_d$ , where  $a>0$ ,  $b>0$ ,  $c>0$ ,  $d\geq 0$ , and  $4.4\leq a+b+c+d\leq 5.4$ .

9. A method of manufacturing a metal hydride alkaline storage cell comprising the steps of:

15 a first step of preparing a negative electrode by applying a paste onto a substrate, wherein said paste contains hydrogen-absorbing alloy powder and a metal compound which is soluble in an electrolyte and selected from the group consisting of a metal fluoride, a metal chloride, a metal iodide, and a metal sulfide, in the proportion of 0.1 to 2.5 wt.% based on the weight of said hydrogen-absorbing alloy powder; and

a second step of placing said negative electrode and a positive electrode into a cell can with disposing a separator therebetween, and thereafter pouring an electrolyte into said cell can.

10. A method of manufacturing a metal hydride alkaline storage cell comprising the steps of:

5 a first step of preparing a negative electrode by applying a paste containing hydrogen absorbing alloy powder onto a substrate; and

6 a second step of placing said negative electrode and a positive electrode into a cell can with disposing a separator therebetween, and thereafter pouring an electrolyte into said cell can, wherein said electrolyte contains a metal compound which is soluble in said electrolyte and selected from the group consisting of a metal fluoride, a metal chloride, a metal iodide, and a metal sulfide in the proportion of 0.1 to 2.5 wt.% based on the weight of said hydrogen-absorbing alloy powder.

10 11. The method of claim 9 or 10 wherein said metal fluoride is at least one metal fluoride selected from the group consisting of a cobalt fluoride, a nickel fluoride, an aluminum fluoride, and a copper fluoride.

12. The method of claim 9 or 10 wherein said metal fluoride is  $\text{CoF}_2$  and/or  $\text{NiF}_2$ .

15 13. The method of claim 9 or 10 wherein said metal chloride is a cobalt chloride and/or a nickel chloride.

14. The method of claim 9 or 10 wherein said metal iodide is a cobalt iodide and/or a nickel iodide.

20 15. The method of claim 9 or 10 wherein said metal sulfide is a cobalt sulfide and/or a nickel sulfide.

25 16. The method of claim 9 or 10 wherein said hydrogen-absorbing alloy powder is selected from the group consisting of rare-earth element based hydrogen-absorbing alloy powder, Zr-Ni based hydrogen-absorbing alloy powder, Ti-Fe based hydrogen-absorbing alloy powder, Zr-Mn based hydrogen-absorbing alloy powder, Ti-Mn based hydrogen-absorbing alloy

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powder, and Mg-Ni based hydrogen-absorbing alloy powder.

17. The method of claim 9 or 10 wherein said hydrogen-absorbing alloy powder comprises hydrogen-absorbing alloy having a  $\text{CaCu}_5$  type crystal structure expressed by the general formula  $\text{MmNi}_a\text{Co}_b\text{Al}_c\text{Mn}_d$ , where

5  $a>0$ ,  $b>0$ ,  $c>0$ ,  $d\geq 0$ , and  $4.4\leq a+b+c+d\leq 5.4$ .

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